

School District Leadership that Works: The Effect of Superintendent Leadership on Student Achievement

A Working Paper

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McREL

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About the Authors

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About McREL

Mid-continent Research for Education and Learning (McREL) is a nonprofit education and research organization based in Denver, Colorado. For more than 40 years, McREL has been dedicated to helping educators use research to improve student achievement. Our Web site (www.mcrel.org) offers hundreds of free reports, tools, and guides designed to improve school and student performance. To learn more about how McREL can help your district use findings from this research to improve student achievement, contact us at 303.337.0990 or info@mcrel.org.



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Executive Summary

To determine the influence of district superintendents on student achievement and the characteristics of effective superintendents, Mid-continent Research for Education and Learning (McREL), a Denver-based education research organization, conducted a meta-analysis of research – a sophisticated research technique that combines data from separate studies into a single sample of research – on the influence of school district leaders on student performance.

This study is the latest in a series of meta-analyses that McREL has conducted over the past several years to determine the characteristics of effective schools, leaders, and teachers. This most recent meta-analysis examines findings from 27 studies conducted since 1970 that used rigorous, quantitative methods to study the influence of school district leaders on student achievement. Altogether, these studies involved 2,817 districts and the achievement scores of 3.4 million students, resulting in what McREL researchers believe to be the largest-ever quantitative examination of research on superintendents. The following four major findings emerged from the study.

Finding 1: District-level leadership matters

The McREL research team, led by McREL President and CEO Tim Waters and McREL Senior Fellow Robert J. Marzano, found a statistically significant relationship (a positive correlation of .24) between district leadership and student achievement.

Finding 2: Effective superintendents focus their efforts on creating goal-oriented districts

McREL researchers also identified five district-level leadership responsibilities that have a statistically significant correlation with average student academic achievement. All five of these responsibilities relate to setting and keeping districts focused on teaching and learning goals.

1. Collaborative goal-setting

Researchers found that effective superintendents include all relevant stakeholders, including central office staff, building-level administrators, and board members, in establishing goals for their districts.

2. Non-negotiable goals for achievement and instruction

Effective superintendents ensure that the collaborative goal-setting process results in non-negotiable goals (i.e., goals that all staff members must act upon) in at least two areas: student achievement and classroom instruction. Effective superintendents set specific achievement targets for schools and students and then ensure the consistent use of research-based instructional strategies in all classrooms to reach those targets.

3. Board alignment and support of district goals

In districts with higher levels of student achievement, the local board of education is aligned with and supportive of the non-negotiable goals for achievement and instruction. They ensure these goals remain the primary focus of the district's efforts and that no other initiatives detract attention or resources from accomplishing these goals.

4. Monitoring goals for achievement and instruction

Effective superintendents continually monitor district progress toward achievement and instructional goals to ensure that these goals remain the driving force behind a district's actions.

5. Use of resources to support achievement and instruction goals

Effective superintendents ensure that the necessary resources, including time, money, personnel, and materials, are allocated to accomplish the district's goals. This can mean cutting back on or dropping initiatives that are not aligned with district goals for achievement and instruction.

Finding 3: Superintendent tenure is positively correlated with student achievement

McREL found two studies that looked specifically at the correlations between superintendent tenure and student achievement. The weighted average correlation in these two studies was a statistically significant .19, which suggests that length of superintendent tenure in a district positively correlates to student achievement. These positive effects appear to manifest themselves as early as two years into a superintendent's tenure.

A surprising & perplexing finding: "Defined autonomy"

One set of findings from the meta-analysis that at first appears contradictory involves building-level autonomy within a district. One study reported that building autonomy has a positive correlation of .28 with average student achievement in the district, indicating that an increase in building autonomy is associated with an *increase* in student achievement. Interestingly, that same study reported that site-based management had a negative correlation with student achievement of (-) .16, indicating that an increase in site-based management is associated with a *decrease* in student achievement. Researchers concluded from this finding that effective superintendents may provide principals with "defined autonomy." That is, they may set clear, non-negotiable goals for learning and instruction, yet provide school leadership teams with the responsibility and authority for determining how to meet those goals.

Background

In 1998, McREL began a series of meta-analytic studies that we view as third-generation effective schools research. The first generation of effective schools research, conducted from the late 1960s to the mid-1980s, produced the first set of “effective schools correlates” — school-level practices that researchers found more evident in schools with higher levels of student achievement than in schools with lower levels of student achievement, even when accounting for variances in student backgrounds and socioeconomic status. These correlates included practices such as the following.

- Safe and orderly environment
- Strong instructional leadership
- High expectations for student achievement
- Clear and focused mission
- Time on task

Findings from this first generation of research established the first empirical relationship between practices used in schools and student achievement. The general conclusion drawn from these studies was that what happens in schools matters. Differences in achievement among schools are not just a reflection of the characteristics of students who attend them, but also the efforts of professionals within those schools.

As helpful as these findings were, the effective school correlates lacked sufficient specificity for practitioners to distinguish clearly and consistently between truly effective and ineffective practices. Nor did the first generation of effective schools research compute the strength of the relationships between identified practices and student achievement. The strength of these relationships have generally been reported as effect sizes. Although many types of effect sizes can be used to report the strength of relationships (see Lipsey & Wilson, 2001), school effectiveness research most often reports effect sizes as correlation coefficients.

In the 1970s, 80s, and 90s, researchers continued to examine the relationship between classroom practices, school practices, and student achievement. As the findings from these studies began to accumulate, a body of research-based knowledge emerged, along with increasingly robust sets of data for secondary analysis. This body of knowledge and these data evolved into the second generation of effective schools research. In this generation, researchers were able to more explicitly describe effective practices *and* compute the effect sizes, or strength of relationship, between specific practices and student achievement.

The new, third generation of effective schools research translates well-defined, effective classroom, school, and leadership practices into specific actions and behaviors. These actions and behaviors represent the basic procedural, or “how-to,” knowledge practitioners

need to translate research into practices that produce high levels of student achievement. McREL's contributions to this third generation of effective schools research has been published as a series of "what works" books, including *Classroom Instruction that Works* (Marzano, Pickering, & Pollock, 2001), *What Works in Schools* (Marzano, 2003), *Classroom Management that Works* (Marzano, Marzano, & Pickering, 2003), and *School Leadership that Works* (Marzano, Waters, & McNulty, 2005). Each study in this series was built on earlier studies and helped establish the foundation for subsequent analyses. Similarly, McREL's most recent analysis of the effects of superintendent leadership on student achievement incorporates aspects of each of the previous "what works" studies – most notably the findings from the meta-analysis of research on school leadership, reported in the book, *School Leadership the Works*.

In *School Leadership that Works*, we answered four important questions about school-level leadership.

1. Does principal leadership have an effect on average student achievement in school?
2. Are there specific leadership responsibilities that, when fulfilled skillfully, correlate with student achievement?
3. What practices do principals use to fulfill leadership responsibilities?
4. What is the variation in the relationship between school leadership and student achievement? Stated differently, do behaviors associated with strong leadership always have a positive effect on student achievement?

The answer to the first question is yes. Principal leadership *does* have discernable effects on student achievement. In fact, we found the correlation between school level leadership and average student achievement in schools to be .25.

We answered the second question by identifying 21 school-level leadership responsibilities with statistically significant correlations to student achievement. These 21 responsibilities do not represent all of the important responsibilities principals are expected to fulfill. They do, however, represent leadership responsibilities that, when fulfilled skillfully, positively impact student achievement. Of the many *important* responsibilities principals are expected to fulfill, the 21 reported in *School Leadership that Works* are *essential* to producing higher levels of student achievement (Waters & Grubb, 2005).

We answered the third question by identifying 66 practices principals use to fulfill the 21 responsibilities that positively influence student achievement. The 21 responsibilities are generalizations about what principals and other school-level leaders do that positively influence achievement. The 66 practices are more specific descriptions of what they are doing to fulfill these responsibilities.

In answering the fourth question, we found that behaviors associated with strong leadership at the school level do not always have a positive relationship with student achievement. That is, we found studies in which principals were rated as strong leaders, yet student achievement levels were low in their schools.

We postulated at least two plausible factors that could explain this finding. The first is the focus of principal leadership. Even strong leaders need to focus their attention and their school's efforts on practices that are likely to improve student achievement.

The second factor is the “magnitude of the change” implied by the leader's focus (for more discussion, see pp. 17–19). In addition to focusing their attention and improvement efforts on practices that are highly likely to improve achievement, principals must also skillfully adapt their leadership behaviors based on the “order of magnitude” of the change implied by this focus. Failing to focus on the “right” practices, and/or failing to effectively manage the change implied by these practices, can produce what we have called the “differential impact of leadership”— leadership that on the surface appears strong, but does *not* positively influence student achievement.

Our findings, conclusions, and recommendations regarding school-level leadership, first-order and second-order change, and managing second-order change are summarized in *School Leadership that Works* (2005). After completing this study of school-level leadership, we turned our attention to superintendent leadership. Using the same methods we employed in our study of principals, we sought answers to the following research questions regarding superintendent and district-level leadership.

Research questions

We asked the following basic research question for our meta-analysis of research on superintendents:

- What is the strength of relationship between leadership at the district level and average student academic achievement in the district?

In addition, we asked the following related research questions:

- What specific district-level leadership responsibilities are related to student academic achievement?
- What specific leadership practices are used to fulfill these responsibilities?
- What is the variation in the relationship between district leadership and student achievement? Stated differently, do behaviors associated with strong leadership always have a positive effect on student achievement?

This working paper reports our initial answers to these questions. A more detailed and technical accounting of our findings, conclusions, and recommendations will be reported in the forthcoming book *Leadership at the Top* (Marzano & Waters, in preparation). As in

each of the “what works” studies, we used meta-analyses to synthesize quantitative research studies. Although not part of our initial set of questions, we are able to answer a fifth question that we believe to be of interest to superintendents and local school board members, but is not specifically focused on superintendent responsibilities and practices:

- Is there a relationship between length of superintendent service and student achievement?

We think of the answer to this fifth question as a “bonus” finding that was not initially part of our inquiry.

Key Finding: District leadership makes a difference

The answers we found to these five questions affirm the long-held, but previously undocumented, belief that sound leadership at the district level adds value to an education system. However, these answers stand in stark contrast to the image of superintendents, school boards, and district office staff created by former Secretary of Education William Bennett, who characterized superintendents, district office staff, and school board members as part of the education “blob.”

Bennett first coined the term the “blob” in his state of education speech in the spring of 1987 (*Education Week*, March 2, 1987). The “blob,” he argued, is made up of people in the education system who work outside of classrooms, soaking up resources and resisting reform without contributing to student achievement. He reiterated this assertion in *The Educated Child* when he and his co-authors wrote:

The public school establishment is one of the most stubbornly intransigent forces on the planet. It is full of people and organizations dedicated to protecting established programs and keeping things just the way they are. Administrators talk of reform even as they are circling the wagons to fend off change, or preparing to outflank your innovation ... To understand many of the problems besetting U.S. schools, it is necessary to know something about the education establishment christened the “blob” by one of the authors (Bennett, Finn, & Cribb, 1999, p. 628)

Bennett, Finn, and Cribb include superintendents, district office staff, and local school board members as part of the “blob.” Certainly, one could find examples of local school district bureaucracies that stand in the way of efforts to improve student learning. Indeed, our research supports the assertion that not all superintendent behaviors produce a positive impact on student achievement. However, our research does not support Mr. Bennett’s broad-stroke condemnation of superintendents, district office staff, and school board members. To the contrary, our findings indicate that when district leaders effectively address specific responsibilities, they can have a profound, positive impact on student achievement in their districts.

Methodology

The methodology used in our study of district-level leadership was meta-analysis. The specifics of meta-analysis are detailed in a number of works (see Lipsey & Wilson, 2001; Cooper & Hedges, 1994). In brief, meta-analysis is a series of quantitative techniques for synthesizing research regarding a specific topic. In this case, that topic is school district leadership.

The targeted sample for our meta-analysis was all available studies involving district leadership or variables related to district leadership in the United States from 1970 until 2005 that possess the following characteristics:

- Reported a correlation between district leadership or district leadership variables and student academic achievement or allow for the computing or estimating of a correlation, and
- Used a standardized measure of student achievement or some index based on a standardized measure of student achievement.

To identify potential studies that met these criteria, four databases were queried: ERIC, PsychINFO, Dissertation Abstracts, and the AERA online search services. Keywords employed in those searches included: *superintendent leadership*, *district leadership*, *effective superintendents*, and *effective districts*. In all, over 4,500 non-repeating titles were retrieved. Of those titles, abstracts revealed that over 200 retrievable documents appeared to meet the identified parameters. These documents were retrieved and examined. Of those, 27 met the identified criteria. The demographics for these 27 reports were as follows:

- Number of districts involved: 2,714
- Number of ratings of superintendent leadership: 4,434
- Estimated number of student achievement scores: 3.4 million

Although there was a good deal of variation in the methodologies employed, the majority of studies surveyed superintendents regarding their perceptions of district-level variables. In some cases, the superintendents' perceptions were combined with those of other related constituents such as board members, school-level administrators, and teachers. This perceptual data was then correlated with average student academic achievement at the district level.

Findings

The key findings of the meta-analysis for the basic research question and related questions are described below.

The impact of district leadership on student achievement

As noted earlier, we set out to answer the following basic research question:

What is the strength of relationship between leadership at the district level and average student academic achievement in the district?

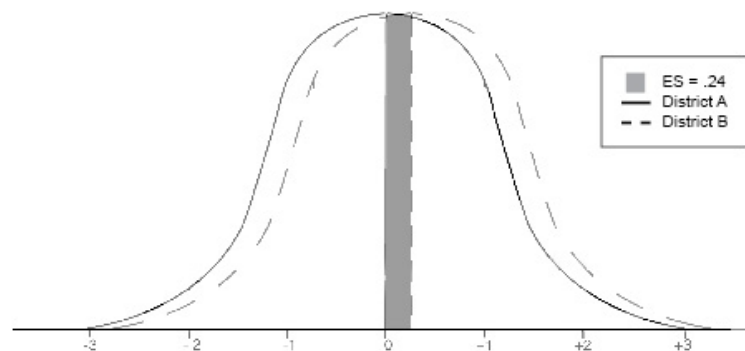
Of the 27 reports examined in the meta-analysis, 14 (excluding statistical outliers) contained information about the relationship between overall district-level leadership and average student academic achievement in the district. These 14 reports included data from 1,210 districts. The computed correlation between district leadership and student achievement was .24 (95% confidence interval: .19 to .30). The fact that the 95 percent confidence interval does not include 0 indicates that this correlation is significant at the .05 level.

Correlations such as these can be interpreted in a variety of ways (for a review see Cohen, Cohen, West, & Aiken, 2003). One of the most common interpretations is to examine the expected change in the dependent variable associated with a one standard deviation gain in the independent variable (Magnusson, 1966). In this case, the independent variable is district-level leadership and the dependent variable is average student achievement in the district.

One way to interpret the .24 correlation is to consider an average superintendent who is at the 50th percentile in terms of his or her leadership abilities and leading a district where average student achievement is also at the 50th percentile. Now, assume that the superintendent improves

his or her leadership abilities by one standard deviation (in this case, rising to the 84th percentile of all district leaders). Given the correlation between district leadership and student achievement of .24, we would predict that average student achievement in the district would increase by 9.5 percentile points. In other words, average student achievement in the district would rise to the 59.5th percentile as shown in Figure. 1.

Figure 1: Effect size of leadership on student achievement



Curve A in Figure 1 depicts a district at the 50th percentile in terms of average student achievement and average district-level leadership. Curve B depicts the expected average academic achievement of students in the same district after the district leadership has increased in quality by one standard deviation. Again, average student academic achievement increased from the 50th percentile to the 59.5th percentile – a gain of almost 10 percentile points.

This finding stands in sharp contrast to the notion that district administration is a part of an amorphous blob that soaks up valuable resources without adding value to a district's instructional program. To the contrary, these findings suggest that when district leaders are carrying out their leadership responsibilities effectively, student achievement across the district is positively affected.

District leadership responsibilities correlated with student achievement

Our second research question sought to identify the specific leadership responsibilities that produce gains in student achievement:

What specific district leadership responsibilities are related to student academic achievement?

In response to this question, we found five district-level leadership responsibilities with a statistically significant ($p < .05$) correlation with average student academic achievement. They are as follows:

- The goal-setting process
- Non-negotiable goals for achievement and instruction
- Board alignment with and support of district goals
- Monitoring the goals for achievement and instruction
- Use of resources to support the goals for achievement and instruction

We describe each of these responsibilities in more detail in the following sections.

Collaborative goal-setting

Effective superintendents include all relevant stakeholders, including central office staff, building-level administrators, and board members, in establishing non-negotiable goals for their districts. In particular, they ensure that building-level administrators throughout the district are heavily involved in the goal-setting process since these are the individuals who, for all practical purposes, will implement articulated goals in schools. Involving principals and school board members in the goal setting process does not imply that consensus must be reached among these stakeholders. However, it does imply that once stakeholders reach an acceptable level of agreement regarding district goals, all stakeholders agree to support the attainment of those goals.

Non-negotiable goals for achievement & instruction

Effective superintendents ensure that the collaborative goal-setting process results in non-negotiable goals (i.e., goals that all staff members must act upon) in at least two areas: student achievement and classroom instruction. This means that the district sets specific achievement targets for the district as a whole, for individual schools, and for subpopulations of students within the district. Once agreed upon, the achievement goals are enacted in every school site. All staff members in each building are aware of the goals and an action plan is created for those goals.

With respect to goals for classroom instruction, this responsibility *does not* mean that the district establishes a single instructional model that all teachers must employ. However, it *does* mean that the district adopts a broad but common framework for classroom instructional design and planning, common instructional language or vocabulary, and consistent use of research-based instructional strategies in each school.

Another characteristic of this responsibility is that all principals support the goals *explicitly* and *implicitly*. Explicit support means that school leaders engage in the behaviors described above. Implicit support means that building level administrators do nothing to subvert the accomplishment of those goals such as criticizing district goals or subtly communicating that the goals the district has selected are inappropriate or unattainable.

Board alignment with & support of district goals

In districts with higher levels of student achievement, the local board of education is aligned with and supportive of the non-negotiable goals for achievement and instruction. The board ensures that these goals remain the top priorities in the district and that no other initiatives detract attention or resources from accomplishing these goals. Although other initiatives might be undertaken, none can detract attention or resources from these two primary goals. Indeed, publicly adopting broad five-year goals for achievement and instruction and consistently supporting these goals, both publicly and privately, are examples of board-level actions that we found to be positively correlated with student achievement.

It is not unusual that individual board members pursue their own interests and expectations for the districts they are elected to serve. This finding suggests, however, that when individual board member interests and expectations distract from board-adopted achievement and instructional goals, they are not contributing to district success, but, in fact, may be working in opposition to that end.

Monitoring achievement & instruction goals

Effective superintendents continually monitor district progress toward achievement and instructional goals to ensure that these goals remain the driving force behind a district's actions. If not monitored continually, district goals can become little more than pithy refrains that are spoken at district and school events and highlighted in written reports. Effective superintendents ensure that each school regularly examines the extent to which it is to meeting achievement targets. Discrepancies between articulated goals and current

practices are interpreted as a need to change or to redouble efforts to enhance student achievement. In short, each school uses the achievement goals as their primary indicator of their success. The same can be said for instructional goals. Any discrepancies between expected teacher behavior in classrooms as articulated by agreed-upon instructional models and observed teacher behavior are taken as a call for corrective action.

Use of resources to support the goals for instruction and achievement

Superintendents of high-performing districts ensure that the necessary resources, including time, money, personnel, and materials, are allocated to accomplish the district's goals. This can mean cutting back on or dropping initiatives that are not aligned with district goals for achievement and instruction. Our analysis does not answer questions about the level of resources school districts must commit to supporting district achievement and instructional goals. However, it is clear from our analysis that a meaningful commitment of funding must be dedicated to professional development for teachers *and* principals. The professional development supported with this funding should be focused on building the requisite knowledge, skills, and competencies teachers and principals need to accomplish a district's goals. Furthermore, as professional development resources are deployed at the school level, they must be utilized in ways that align schools with district goals.

A surprising & perplexing finding: “Defined autonomy”

One set of findings from the meta-analysis that at first appears contradictory involves building-level autonomy within a district. One study reported that building autonomy has a positive correlation of .28 with average student achievement in the district, indicating that an increase in building autonomy is associated with an *increase* in student achievement. Interestingly, that same study reported that site-based management had a negative correlation with student achievement of (-) .16, indicating that an increase in site-based management is associated with a *decrease* in student achievement.

Other studies on site-based management reported slightly better results. However, the average correlation between site-based management and student achievement was (for all practical purposes) 0. This apparent contradiction begins to make sense, however, in light of the five district-level leadership responsibilities described above.

How can we find “school autonomy” positively correlated with student achievement and site-based management exhibiting a negligible or negative correlation with achievement? This question might be answered in at least two of the earlier findings. The superintendent who implements inclusive goal-setting processes that result in board adopted “non-negotiable goals for achievement and instruction,” who assures that schools align their use of district resources for professional development with district goals, and who monitors and evaluates progress toward goal achievement, is fulfilling multiple responsibilities correlated with high levels of achievement. When this superintendent also encourages strong school-level leadership and encourages principals and others to assume responsibility for school success, he or she has fulfilled another responsibility; to establish a relationship with schools. This relationship is characterized by “defined autonomy,” which is the expectation and support to lead *within the boundaries defined by the district goals*.

Superintendents in districts large enough to employ assistant superintendents, directors, and other administrative staff members, will quickly recognize the implications of this finding for their district office staff. A shared understanding of and commitment to a relationship with schools of “defined autonomy” is critical. In most large districts, superintendents fulfill responsibilities for planning, goal adoption, board alignment and support, resource alignment, and monitoring primarily through the district office staff. When an understanding of “defined autonomy” is shared and honored by all district office personnel, district-level leadership contributes positively to student achievement. When the district office staff is unable or unwilling to support schools’ “defined autonomy,” they may very well resemble what William Bennett labeled the “blob.”

The “bonus” finding

Our meta-analysis produced one finding that initially was not a focus of the study, but emerged from the analysis of the reports. Two studies that we examined reported correlations between superintendent tenure and student academic achievement. The weighted average correlation (corrected for attenuation) from these two studies was .19 significant at the .05 level.

This finding is rather profound in light of the discussion in the introductory section regarding the alleged lack of impact on student achievement attributed to the blob. Specifically, this finding implies that the longevity of the superintendent has a positive effect on the average academic achievement of students in the district. These positive effects appear to manifest themselves as early as two years into a superintendent’s tenure.

Practices used to fulfill leadership responsibilities

We also set out to answer the following research question:

What specific leadership practices are used to fulfill these responsibilities?

From the studies we analyzed, we were able to extract specific practices used by superintendents to fulfill the six responsibilities described in the previous sections. Figure 2 on the following pages lists these practices along with their average correlations.

Figure 2: Leadership responsibilities and practices

Superintendent responsibilities	Avg r	Practices used by superintendent & executive/district office staff to fulfill superintendent responsibilities
<p>Goal-setting process</p> <p><i>The superintendent involves board members and principals in the process of setting goals.</i></p>	.24	<p>Developing a shared vision for the goal setting process</p> <p>Using the goal setting process to set goals developed jointly by board and administration</p> <p>Developing goals that are coherent and reflect attendant values which support involvement and quality in achievement rather than maintenance of the status quo</p> <p>Communicating expectations to central office staff and principals</p>
<p>Non-negotiable goals for achievement & instruction</p> <p><i>Goals for student achievement and instructional program are adopted and are based on relevant research.</i></p>	.33	<p>Modeling understanding of instructional design</p> <p>Establishing clear priorities among the district's instructional goals and objectives</p> <p>Adopting instructional methodologies that facilitate the efficient delivery of the districts curriculum</p> <p>Incorporating varied and diverse instructional methodologies that allow for a wide range of learning styles that exist in a multi-racial student population</p> <p>Adopting 5-year non-negotiable goals for achievement and instruction</p> <p>Ensuring that a preferred instructional program is adopted and implemented</p>
<p>Board alignment with & support of district goals</p> <p><i>Board support for district goals for achievement and instruction is maintained.</i></p>	.29	<p>Establishing agreement with the board president on district goals</p> <p>Establishing agreement with the board president on type and nature of conflict in the district</p> <p>Along with the board president, remaining situationally aware, agreeing on the political climate of the school district</p> <p>Establishing agreement with the board president on the nature of teaching/learning strategies to be used in the district</p> <p>Providing professional development for board members</p> <p>Establishing agreement with the board president on the effectiveness of board training</p>
<p>Monitoring goals for achievement & instruction</p> <p><i>The superintendent monitors and evaluates implementation of the district instructional program, impact of instruction on achievement, and impact of implementation on implementers.</i></p>	.27	<p>Using an instructional evaluation program that accurately monitors implementation of the district's instructional program</p> <p>Monitoring student achievement through feedback from the instructional evaluation program</p> <p>Using a system to manage instructional change</p> <p>Annually evaluating principals</p> <p>Reporting student achievement data to the board on a regular basis</p> <p>Ensuring that the curricular needs of all student populations are met</p> <p>Observing classrooms during school visits</p> <p>Coordinating efforts of individuals and groups within the organization to increase reliability of the system, with adjustments by individuals to quickly respond to system failures</p>

Superintendent responsibilities	Avg r	Practices used by superintendent & executive/district office staff to fulfill superintendent responsibilities
<p>Use of resources to support the goals for achievement & instruction</p> <p><i>Resources are dedicated and used for professional development of teachers and principals to achieve district goals</i></p>	.26	<p>Adopting an instructional and resource management system supporting implementation of the district's instructional philosophy</p> <p>Providing extensive teacher and principal staff development</p> <p>Training all instructional staff in a common but flexible instructional model</p> <p>Controlling resource allocation</p> <p>Providing access to professional growth opportunities through the design of a master plan to coordinate in-service activities of the district</p>
The surprising and perplexing finding		
Superintendent responsibilities	Avg r	Practices used by superintendent & executive/district office staff to fulfill superintendent responsibilities
<p>Defined autonomy; superintendent relationship with schools</p> <p><i>The superintendent provides autonomy to principals to lead their schools, but expects alignment on district goals and use of resources for professional development.</i></p>	.28	<p>Developing a shared vision and understanding of "defined autonomy"</p> <p>Using standards for content and instruction as basic design principles</p> <p>Committing the district and schools to continuous improvement</p> <p>Screening, interviewing, and selecting teachers along with principals</p> <p>Hiring experienced teachers</p> <p>Rewarding successful teachers and terminating the employment of unsuccessful teachers</p> <p>Establishing teacher evaluation as a priority for principals</p> <p>Ensuring that principals speak with teachers about results</p> <p>Establishing strong agreed-upon principles/values which direct actions of people</p> <p>Ensuring that schools have a clear mission focused on school performance</p> <p>Ensuring that school practices are characterized by opportunity for all students to learn</p> <p>Including socializing functions in district meetings</p> <p>Maintaining high expectations for school performance</p> <p>Expecting principals to fulfill instructional leadership responsibilities</p> <p>Directing personnel operations to assure a stable yet improving and well-balanced work force</p> <p>Ensuring that schools are characterized by an orderly climate</p> <p>Promoting innovation</p> <p>Developing principal awareness of district goals and actions directed at goal accomplishment</p> <p>Providing leadership of curriculum development</p> <p>Ensuring that homogeneous ability groupings within classrooms do not segregate students into racial or other inappropriate groups</p> <p>Applying district sanctions to students for unsatisfactory academic performance</p> <p>Rewarding students beyond standard honor rolls and recognition assemblies for exceptional performance</p>

Note: The r correlations reported in this table are derived from McREL's meta-analysis of research on superintendent leadership.

The differential impact of leadership

Finally, we sought to answer the following research question:

What is the variation in the relationship between district leadership and student achievement? Stated differently, do behaviors associated with strong leadership always have a positive effect on student achievement?

We already have reported the general effect of district -level leadership. The correlation of district-level leadership with student achievement is .24. This is the “average” effect of leadership. Although this is the average effect, we found a range of effects with correlations as high as .54 and as low as -.13. This finding answers the related research question – there is a great deal of variation in the strength of relationship between district leadership and student achievement. Stated differently, behaviors associated with leadership at the district level are not always associated with an increase in average student achievement. We call this the “differential impact” of leadership.

There are many possible explanations for the differential impact of leadership. There are two, however, that we view as most plausible. They are derived from our study of school-level leadership (see Marzano, Waters, & McNulty, 2005). First, the effect of strong leadership could be mitigated if a superintendent is focused (or focuses the district) on goals that are not likely to affect student achievement. As we stated earlier, a superintendent can focus the attention and resources of the district on many goals. Not all of them have the potential to influence student achievement. By focusing a district on goals that are unlikely to impact achievement, a seemingly strong superintendent can have a minimal or even negative effect on student performance.

The second explanation for the differential impact of district-level leadership is the *order of magnitude* of change implied by the planning process, district goals, and alignment of resources. Even when the superintendent focuses the district on goals with the potential to improve achievement, he or she must accurately estimate the order of magnitude of change these goals imply for stakeholders. In our earlier work, we describe the characteristics of change that will be perceived as either first-order or second-order based on the implications of change for stakeholders. The terms first-order and second-order have as much to do with the *implications* of change for individuals expected to implement or who are impacted by it as they do with the specific features of change initiatives.

The theoretical literature on leadership and change asserts that not all change is of the same order of magnitude (Heifetz, 1994; Fullan, 1993; Beckard & Pritchard, 1992; Hesselbein & Johnston, 2002; Bridges, 1991; Rogers, 1995; Nadler, Shaw, & Walton 1994; Kanter, 1985). Some changes represent more significant implications for staff members, students, parents, and community members than others. We have used the terms *first-order* and *second-order* to distinguish between changes perceived as routine and those perceived as dramatic. Leading change theorists have used such terms as technical vs. adaptive, incremental vs. fundamental, and continuous vs. discontinuous to make this same distinction.

In our earlier work, we list perceived characteristics of change that will cause it to be viewed as either first-order or second-order based on its implications for stakeholders. Whether a change is perceived as first-order or second-order has as much to do with what it *implies* for the individuals expected to implement it or who are impacted by it as it does with the specific features of a change initiative.

Few changes can be considered as either first-order or second-order for all stakeholders. The same change may be viewed by a majority of stakeholders as first-order while at the same time it is perceived as second-order by a minority of stakeholders. The reverse can be true as well. What determines whether stakeholders perceive a change to be first-order or second-order is their own knowledge, experience, values, and flexibility. Figure 3 lists perceived characteristics of change that will cause stakeholders to perceive it as first-order or second-order.

Figure 3: Perceptions that can cause change to be viewed as first- or second-order

First-order Change <i>When a change is perceived as:</i>	Second-order Change <i>When a change is perceived as:</i>
An extension of the past	A break with the past
Within existing paradigms	Outside of existing paradigms
Consistent with prevailing values and norms	Conflicted with prevailing values and norms
Implemented with existing knowledge & skills	Requiring new knowledge & skills to implement

An example of a change that most teachers might view as first-order is teaching the vocabulary students must understand to perform well in their school’s assessment and accountability program. Teaching vocabulary that appears in the essential curriculum and in assessment instruments makes sense to most teachers. It is consistent with their prior experience, an incremental step that builds on the existing knowledge of pedagogy, is consistent with their personal values and the perceived norms of their school and district.

However, this is not true for all teachers. For some teachers, vocabulary instruction can be a second-order change. It is not consistent with their prior experience, conflicts with their personal values and the prevailing norms of their school or district, and requires them to gain new knowledge and skills. As a result, an effort to encourage direct teaching of vocabulary throughout the district is a change that can be a first-order change for most stakeholders but a second-order change for others.

Consider a second example: a decision to implement a system of standards-based record keeping, grading, and reporting. In this case, teachers would be asked to base their assessment of student performance on the standards or benchmarks adopted for their grade level or course of study. Grades would be calculated based on students’ demonstrated learning at the end of a grading or assessment period, rather than averaging performance from the beginning to the end of the grading period. “Report cards” or other forms of

reporting to students and parents would reflect student performance using a rubric tied to each benchmark. Grades would be a product of how students performed against the criteria included in the rubric.

In most schools and districts, this approach to grading would represent a second-order change for most stakeholders. However, this may not be true for everyone. Some teachers, principals, and community members might view this change as a logical next step to their work with standards and benchmarks, consistent with their personal values and school and district policy development. For these stakeholders, this change would be a first-order change.

To avoid the “differential impact of leadership,” it is necessary for superintendents to understand and to estimate accurately the order of magnitude the district’s goals will imply for different stakeholders.

Conclusion: Dispelling the Myth of the Blob

For two decades, superintendents, district office personnel, and school board members have worked to overcome the image of the “blob” created by William Bennett. Undoubtedly, there are school district bureaucracies for which this label applies. However, we have found a substantial and positive relationship between district-level leadership and student achievement when the superintendent, district office staff, and school board members do the “right work” in the “right way.” These findings suggest that superintendents, district office staff, and school board members can contribute to school and student success when they are focused on fulfilling key leadership responsibilities and using the practices reported in this study. In short, these findings help to dispel the myth of the “blob” perpetuated by Bennett, Finn, and Cribb.

In addition, the positive correlations that appear between the length of superintendent service and student achievement confirms the value of leadership stability. Superintendents should note the importance of remaining in a district long enough to see the positive impact of their leadership on student learning and achievement. Of equal significance is the implication of this finding for school boards as they frequently determine the length of superintendent tenure in their districts. In his book *Crash Course* (2005), Chris Whittle contrasts CEO stability in major corporations with superintendent stability in large urban school districts (see Figures 4 and 5).

Figure 4: Superintendent stability in selected urban districts

City	Number of superintendents in past 20 years	Avg. tenure in years
Kansas City	14	1.4
Washington, D.C.	9	2.2
New York City	8	2.5

Figure 5: CEO stability in selected corporations

Company	Number of CEOs in the past 20 years	Avg. tenure in years
General Electric	2	11
Federal Express	1	35
Microsoft*	1	30
Dell**	1	21

* Bill Gates stepped down as CEO of Microsoft in 2000. Steve Ballmer now serves as Microsoft’s CEO.

** Michael Dell stepped down as Dell’s CEO in 2004. Kevin Rollins now serves as Dell’s CEO.

(*Crash Course*, P. 47)

The corporations listed in Figure 5 are generally acknowledged as among the most successful in the world. Whittle asserts that CEO stability accounts for a large percentage of their success. He also argues that the instability of superintendent leadership reflected in the school districts listed in Figure 4 accounts for much of the low student achievement found in too many school districts. If the stability of superintendents was to approximate the stability of CEO leadership, he claims, the performance of school districts would be enhanced. This obviously assumes the superintendent is focused on the “right” priorities and skillfully fulfilling his or her responsibilities. Our “bonus” finding of the relationship between superintendent stability and student achievement supports Whittle’s conclusion.

School board members need to hire a superintendent who skillfully fulfills key leadership responsibilities. They need to support district goals for achievement and instruction. They need to support district- and school-level leadership in ways that enhance, rather than diminish, stability. When focused on effective classroom, school, and district practices, appropriate achievement and instructional goals, and effective leadership responsibilities, it is clear that school district leadership matters. Under these conditions, rather than be part of the “blob,” superintendents, district office staff, and school boards can be part of the solution.

References

- Bennett, W.J., Finn, C.E., & Cribb, J.T.E. (1999). *The educated child: A parent's guide from preschool through eighth grade*. New York, NY: The Free Press.
- Beckard, R., & Pritchard, W. (1992). *Changing the essence: The art of creating and leading fundamental change in organizations*. San Francisco: Jossey-Bass.
- Bridges, W. (1991) *Managing transitions: Making the most of change*. Reading, MA: Addison-Wesley.
- Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences (3rd edition)*. Mahwah, NJ: Lawrence Erlbaum.
- Cooper, H. & Hedges, L.V. (Eds.) (1994). *The handbook of research synthesis*. New York, NY: Russell Sage Foundation.
- Fullan, M.G. (1993). *Change forces: Probing the depths of educational reform*. Bristol, PA: Falmer Press.
- Heifetz, R. (1994). *Leadership without easy answers*. Cambridge, MA: Belknap Press.
- Hesselbein, F. & Johnston, R. (Eds.) (2002). *On Leading Change: A leader to leader guide*. San Francisco: Jossey-Bass.
- Lipsey, M.W. & Wilson, D.B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: SAGE Publications.
- Magnusson, D. (1966). *Test theory*. Reading, MA: Addison & Wesley.
- Marzano, R. J. (2003). *What works in schools: Translating research into action*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Marzano, R. J., Marzano, J. S., & Pickering, D. J. (2003). *Classroom management that works: Research based strategies for every teacher*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Marzano, R.J. & Waters, T.J. (in preparation) *Leadership at the top*. Denver, CO: Mid-continent Research for Education and Learning.

- Marzano, R.J., Waters, J.T., & McNulty, B.A. (2004) *School leadership that works: From research to results*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Nadler, D.A., Shaw, R.B., Walton, A.E. & Associates. (1994). *Discontinuous change*. San Francisco: Jossey-Bass.
- Rogers, E. (1995). *Diffusion of innovations*. New York: Free Press.
- Waters, J.T., Grubb, S. (2005). Leading schools: Distinguishing the essential from the important. *The Australian Educational Leader*. (3) 2005, 10-13, 46-48.
- Whittle, Chris. (2005) *Crash Course*. New York, NY: Riverhead Books.

Reports Used in the Meta-Analysis

- Adams, J.P. (1987). Superintendents and effective schools. (Doctoral dissertation, University of California, Santa Barbara, 1987). *Dissertation Abstracts International*. (UMI No. 8727818)
- Alexander, G. (1976). School district effects on academic achievement. *American Sociological Review*, 41, 144-151.
- Allen, R.W. (1996). A comparison of school effectiveness and school achievement for schools in Arkansas. (Doctoral dissertation, University of Arkansas, 1996). *Dissertation Abstracts International*. (UMI No. 9700324)
- Bell, L.A. (1996). School-based management and student achievement (Doctoral dissertation, University of Virginia, 1996). *Dissertation Abstract International* (UMI No. 9701364)
- Bidwell, K. (1975). School district organization and student achievement. *American Sociological Review*, 40, 55-70.
- Brock, J.H. (1986). A study of the relationship of pupil achievement test scores in reading and mathematics to pupil expenditures and selected district socioeconomic variables. (Doctoral dissertation, University of Kentucky, 1986). *Dissertation Abstracts International*. (UMI No. 8715918)
- Burnett, R.D. (1989). The effects of superintendents' leadership behaviors in curriculum and instruction upon student achievement in South Carolina public school districts. (Doctoral dissertation, University of South Carolina, 1989). *Dissertation Abstracts International*. (UMI No. 8921454)

- Byrd, J. K (2001). Effective superintendent leadership strategies and management techniques for improving student performance as perceived by superintendents in selected school districts in Texas. (Doctoral dissertation, Texas A & M University, 2001). *Dissertation Abstracts International*. (UMI No. 3020012)
- Clore, W.P. (1991). The relationship of superintendent instructional leadership behavior and school district demographics to student achievement. (Doctoral dissertation, The University of Texas at Austin, 1991). *Dissertation Abstracts International*. (UMI No. 9128196)
- Coladarci, T., Smith, L., & Whiteley, G. (2005). The re-inventing schools implementation monitoring survey, Alaska benchmark/high school graduation qualifying examination data and relationship between the two. Anchorage, AK: RISC.
- Cotter, M. (2001). Strategic leadership for student achievement: an exploratory analysis of school board-superintendent governance and development practices. (Doctoral dissertation, Johnson & Wales University, 2001). *Dissertation Abstracts International*. (UMI No. 3017528)
- Duvall, S.A. (2005). *Superintendent evaluation and other influences on the school board and superintendent relationship: Measuring strength of relationship*. Unpublished doctoral dissertation, Eastern Michigan University, 2005.
- Endeman, J.L. (1990). Visionary leadership in superintendents and its effect on organizational outcomes. (Doctoral dissertation, University of La Verne, 1990). *Dissertation Abstracts International*. (UMI No.9128127)
- Goodman, R.H., Fullbright, L., & Zimmerman W.G. (1997). *Getting there from here. School board-superintendent collaboration: Creating a school governance team capable of raising student achievement*. Virginia: Educational Research Service.
- Hart, A.W. (1983). An explanation of the effects of superintendents on the instructional performance of school districts. (Doctoral dissertation, The University of Utah, 1983). *Dissertation Abstracts International*. (UMI No. 8405914)
- Hart, A.W., & Ogawa, R. T. (1987). The influence of superintendents on the academic achievement of school districts. *The Journal of Educational Administration*, 25(1), 72-84.
- Hoyle, J., Hogan, D., Skrla, L., & Ealy, C. (2001). Superintendent performance evaluation and its relationships to district student performance. *21st Century Challenges for School Administrators: NCPEA Yearbook*, 7, 272-285.
- Jackson, R.M. (1991). The superintendent and school improvement: Antecedents, actions and outcomes. (Doctoral dissertation, University of Kansas, 1991). *Dissertation Abstracts International*. (UMI No. 9210063)

- Johnson, K. (1997). The relationship of superintendent tenure to school performance in Arkansas. (Doctoral dissertation, University of Arkansas, 1997). *Dissertation Abstracts International*. (UMI No. 9805852)
- Mocek, R.C. (2002). The influence of educational administrators' leadership behaviors on student achievement in reading. (Doctoral dissertation, Northern Illinois University, 2002) *Dissertation Abstracts International*. (UMI No. 3055455)
- Morgan, G.W. (1990). School district effectiveness and the leadership of the superintendent of schools. (Doctoral dissertation, Rutgers The State University of New Jersey, 1990). *Dissertation Abstracts International*. (UMI No. 9033609).
- Muller, R.W. (1989). Instructional leadership superintendents' competencies related to student achievement. (Doctoral dissertation, The University of Texas at Austin, 1989). *Dissertation Abstracts International*. (UMI No. 8920786)
- Sanchez, A.P. (2003). The relationship between the superintendent's perceptions of the utilization of technology to increase student achievement and actual district student achievement. (Doctoral dissertation, Texas A&M University-Kingsville & Texas A&M University-Corpus Christi, 2003). *Dissertation Abstracts International*. (UMI No. 3099261)
- Vaughan, N.K. (2002). The relationship between student performance and the leadership behavior of superintendents in Texas public school districts. (Doctoral dissertation, Texas A&M University, 2002). *Dissertation Abstracts International*. (UMI No. 3058161)
- Veltri, P.J. (2001). The relationship between school districts' planning practices, student achievement and, the implementation of the correlates of effective schools. (Doctoral dissertation, University of Idaho, 2001). *Dissertation Abstracts International*. (UMI No. 3010890)
- Wallace, M.G. (1998). Student performance and administrative interventions within the successful schools consortium. (Doctoral dissertation, Baylor University, 1998). *Dissertation Abstracts International*. (UMI No. 9838753)
- Wodderson-Perez, M. (2000). The relationship of superintendent leadership styles to student achievement and school district financial and demographic factors in Texas. (Doctoral dissertation, Sam Houston State University, 2000). *Dissertation Abstracts International*. (UMI No. 9982149)